

The invention claimed is:

1 1. A method of determining the reverse link data rate limit for a mobile station of a high
2 data rate system comprising the steps of
3 adding together the rates at which data is being transmitted from each mobile in a
4 common sector to obtain an aggregate rate,
5 obtaining a moving average of the aggregate rate, and
6 normalizing the aggregate rate to generate an estimate of the maximum aggregate reverse
7 link rate.

1 2. The method of claim 1 wherein the sum obtained by adding the rates at which data is
2 being transmitted is for each mobile during a common frame.

1 3. The method of claim 2 further comprising the step of comparing the estimate of the
2 maximum aggregate reverse link rate with a set of threshold values to obtain a maximum rate
3 limit for the mobile station.

1 4. The method of claim 3 further comprising the step of setting the rate at which data is
2 transmitted from a mobile to be equal to or less than the obtained maximum rate limit.

1 5. The method of claim 3 further comprising the step of setting the rate at which data is
2 transmitted from a mobile to be less than the obtained maximum rate limit.

1 6. The method of claim 3 wherein the normalizing step comprises multiplying the
2 aggregate by the ratio of the aggregate data rate of the active mobiles divided by the maximum
3 data rate limit of the reverse link.

1 7. The method of claim 1 wherein the step of obtaining a moving average of the
2 aggregate rate comprises the step of adding the aggregate rate for a single frame to an average of
3 the aggregate rate of preceding frames.

1 8. The method of claim 7 wherein the preceding frame comprises a window of a fixed
2 number of frames.

1 9. The method of claim 8 wherein the fixed number of frames in the window comprises
2 at least two frames.

1 10. The method of claim 8 wherein the fixed number of frames in the window comprises
2 up to five hundred or more frames.

1 11. A method of claim 7 wherein the rate of one of the preceding frames is dropped each
2 time the rate of a new frame is added to the window.

1 12. The method of claim 11 wherein the rate of the most mature frame is dropped from
2 the window each time the rate of the youngest frame is added to the window to keep the number
3 of frames in the window constant.

1 13. The method of determining the reverse link data rate limit for a mobile station of a
2 high data rate system comprising the steps of
3 providing a window of a number of frames,
4 subtracting the reciprocal of the number of frames in the window from one to obtain a $1 - \frac{1}{50}$
5 first number,
6 multiplying the first number by the aggregate data rate of the frames of the window to $9.8 \times 70 = 2$
7 obtain a second number,
8 multiplying the reciprocal of the number of frames in the window by the normalized $\frac{1}{50} \times \frac{R_m}{R_{max}}$ 3
9 aggregate rate received during a single frame to obtain a third number, and
10 adding the second number to the third number to obtain a fourth number which is the
11 reverse loading expressed as a percentage. $(2 + 3)$

1 14. The method of claim 13 further comprising the step of comparing the fourth number
2 to a set of threshold values to obtain the maximum rate limit for the mobile station.

1 15. The method of claim 14 wherein the number of frames in the window is fixed.

1 16. The method of claim 15 wherein the frames in the window are consecutive frames.

- 1 17. The method of claim 13 wherein the normalized aggregate rate comprises the ratio of
- 2 the aggregate data rate of the active mobiles divided by the maximum data rate limit of the
- 3 reverse link.

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